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ABSTRACT

This report tracks student performance on the Iowa Tests of Basic Skills (ITBS) in the Chicago Public Schools (CPS) elementary schools in 2001. To make valid cross-year comparisons, this update adjusts statistics reported by the CPS by establishing a common procedure over time for including bilingual education students. Test scores are tracked by age to account for the effect of the CPS retention policy, and the score reporting method used is the mean grade equivalent score rather than percent at or above national norms. The ITBS trend results reported are generally consistent with patterns noted in the Consortium's 1999 and 2000 test trend reviews. Beginning with the 1999 report, a concern was raised about possible stagnation in productivity improvements in CPS elementary schools. Data for 2001 allow the firm conclusion that this is, in fact, the case. The gain scores indicate that CPS made improvements in student learning throughout much of the 1990s, the improvements stalled after 1997. There is no evidence of any significant productivity growth in elementary schools since that time. (Contains 5 tables, 10 endnotes, and 5 references.) (SLD)

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ED 470 300

Research Data Brief

Academic Productivity Series
2001 Results

June 2002

2001 CPS Test Trend Review: Iowa Tests of Basic Skills

Todd Rosenkranz

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This is the fourth annual elementary school test trend review conducted by the Consortium on Chicago School Research. This report tracks student performance on the Iowa Tests of Basic Skills (ITBS). The ITBS has been administered in the Chicago Public Schools (CPS) since at least the mid-1970s. It is one of many commercially available achievement tests designed to measure student performance in relation to average national performance. The content on the ITBS, and on similar achievement tests, is selected to represent broad trends in curriculum across the country, rather than the specific learning standards of a particular school district or state. In recent years, CPS has used the ITBS in conjunction with its high stakes accountability system. Test results have been used to place schools on academic probation, to assign students to mandatory summer school, and in some cases, to retain students.[1]

In order to make valid cross-year comparisons, this update adjusts statistics reported by CPS in three key ways. First, we establish a common procedure over time for the inclusion of bilingual education students in systemwide score reporting. Second, test scores are tracked by age to account for the effect of the CPS retention policy. Lastly, the score reporting method used is the mean (average) grade equivalent (GE) score rather than the "percent at or above national norms" statistic that the CPS administration uses.[2] For complete explanations of the reasons for these decisions, please refer to earlier Consortium test trend reviews where the "why" behind the adjustments are explained in detail.[3]

Inclusion in the Elementary School Testing Program

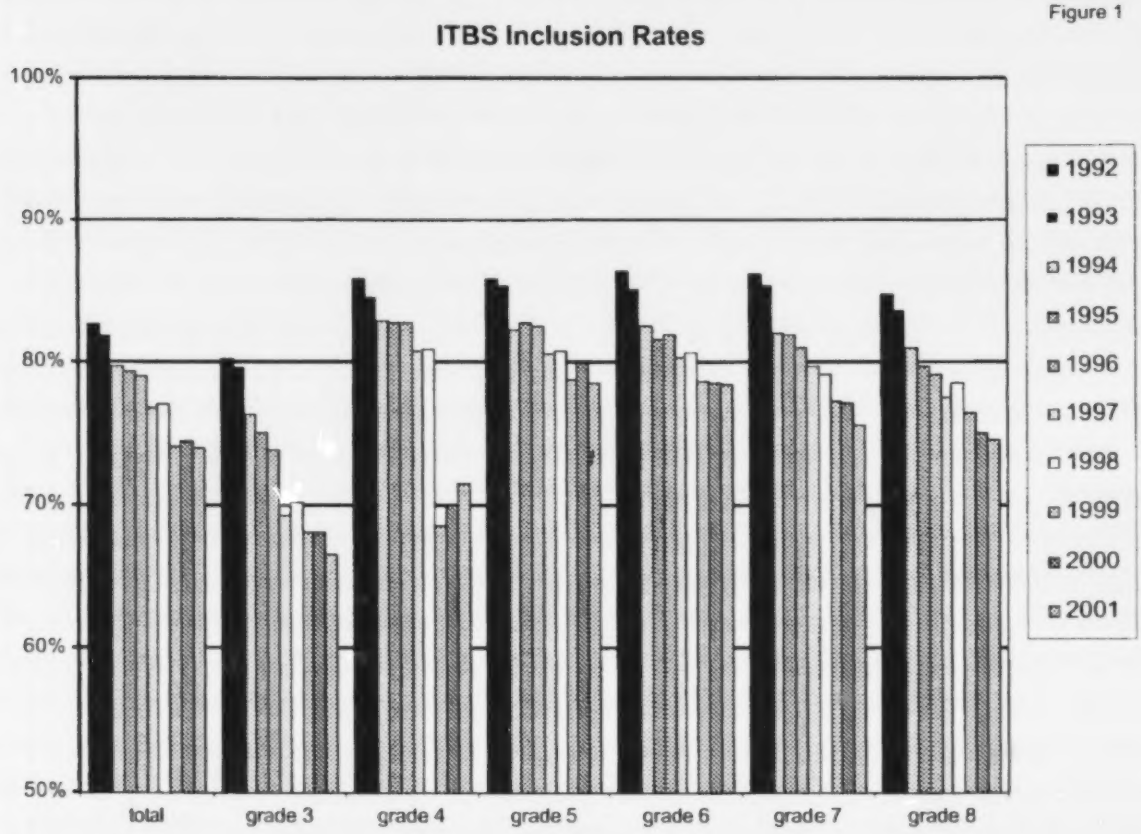
Although almost 95 percent of CPS elementary school students in grades three through eight are tested yearly in math and reading, slightly fewer than three out of four students are included in public reporting of test results. There are two possible reasons why a student might be tested but her score not included in public reporting (also known as "tested but excluded"): either the child has been identified as eligible for special education services, or the child is in a bilingual education program (some students are in both). Any child categorized as tested but excluded is not required to meet the CPS promotion standards in grades three, six, and eight. In addition, the student's score is not included in the statistics that are used to remove or place schools on probation, nor is it factored into city-wide statistics.[4] In contrast, all children that are "tested and included" are subject to the CPS promotion standards, their scores are used in determining whether or not a school is on probation, and they are included in the test score summaries that CPS releases to the public.

The inclusion rate for CPS elementary school students has dropped over the last nine years (see Figure 1). In spring 2001, 74.0 percent of students in third through eighth grade took the ITBS and were included in reporting, 19.6 percent took the ITBS but were excluded from reporting, and 6.4 percent were not tested.[5] This compares to an 82.7 percent inclusion rate in spring 1992. Even though enrollment in CPS elementary school target grades has increased by 14,000 students since 1992, the number of students tested and included has actually dropped by almost 5,000. Data suggest that some stability has been achieved over the past three years. This is mostly a result of major changes in the bilingual education policy implemented in 1998–99. Since that time, the inclusion rate has hovered around 74 percent and the percent not tested has remained at 6.4 percent.

Effects of the CPS Bilingual Education Policy

Table A (see page 14) shows a large increase in the number of students tested but excluded and a smaller, yet significant, decrease in the number of students not tested in 1999 (the number of students tested and included increased by more than 12,000 from 1998, and the number not tested declined by more than 5,000). This is due almost completely to the overhaul of the bilingual education policy in 1998–99. The intent behind the policy was to allow for better assessment of students in bilingual education programs without "penalizing" schools for the lower test scores that would likely result from testing these students. The policy called for testing all students who completed two years in a CPS bilingual education program, but extending

Figure 1



from three to four years (post-kindergarten) the period before their scores were included in aggregate totals. This change resulted in a huge increase in the number of students tested but excluded in the fourth grade with no corresponding decrease in the number not tested. In the third grade, there was a steep drop in the percent not tested and a corresponding increase in the percent tested but excluded.

The highest inclusion rates are in the fifth and sixth grades. In the lower grades, enrollment in bilingual education programs results in lower tested and included rates—barely two-thirds of CPS third graders are tested and included. By fifth grade, those students enrolled in a bilingual education program since the first grade pass the four-year exclusion limit. As a result, the inclusion rate shoots up between the fourth and fifth grades (70.1 percent for the fourth grade in spring 2000; 78.6 percent for fifth grade in spring 2001). After sixth grade, referrals to special education accumulate and the percent tested and included is lower for seventh and eighth grade.

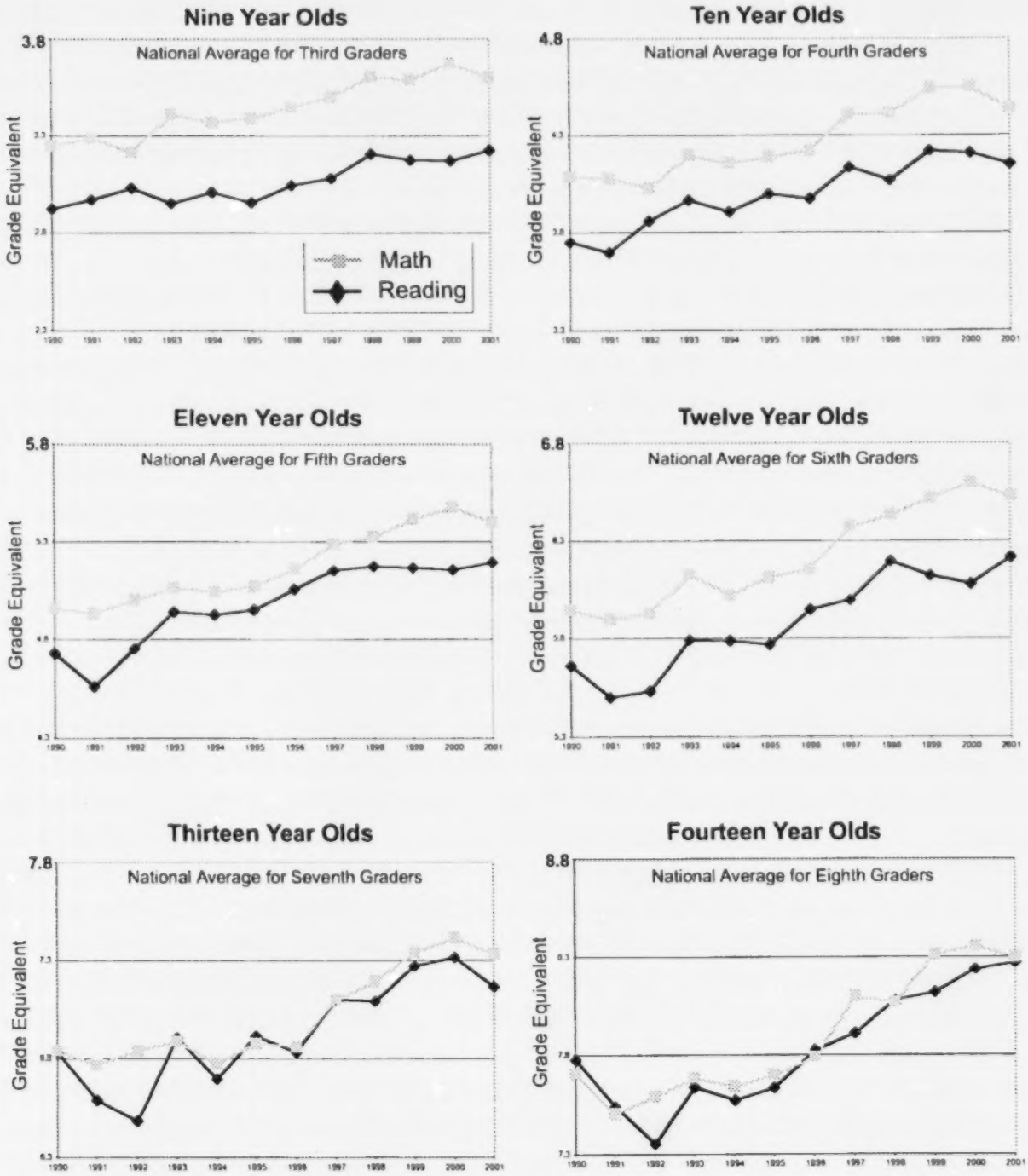
Another impact of the change in the bilingual education policy is the greater movement of children out of the program before the expiration of the four-year limit. Table B (see page 16) shows that although the number of third-grade students tested but excluded due to bilingual education has stayed fairly constant over the past three years, that number drops by almost 1,000 for fourth graders.

Elementary School Test Score Trends

Figure 2 shows ITBS score trends for reading and math by age group from 1990 to 2001. In general, each age group corresponds to the grades tested for ITBS (i.e., nine-year-olds are traditional third graders, ten-year-olds are traditional fourth graders, etc.). The top line on each graph represents the national norm for

Figure 2

Trends in ITBS Grade Equivalents, by Age



Determining Age Cohorts and Controlling for the CPS Retention Policy

We report test scores by students' ages rather than grades to control for the impact of the retention policy adopted by the system in the 1995–96 school year. In the most recent years, classes have a larger percentage of students who were retained for one or more years, especially in the third, sixth, and eighth grades. Because retained students have been in school longer than other students in the same grade, tracking students by age allows us to compare groups of students who have received the same number of years of schooling over time.

The age calculation reflects CPS age requirements for entry into school. An age cohort is determined by the age a student turns during the school year. A nine-year-old is defined as a child who turns nine between September 1 and August 31 of the following year (a September 1 birthday is the cut-off date for entry to kindergarten). The assignment of students to age cohorts has been complicated by changes in the cut-off date. In 1987 and years prior, students needed to reach their fifth birthday by December 1 in order to be eligible to start school that fall. Starting in 1988, the allowable entry birth date shifted back by one-month increments. By 1990, all students needed to reach their fifth birthday by September 1 in order to be eligible to enter kindergarten in the fall. In previous reports we accounted for this transition by adjusting the age calculation to reflect the entry date law.

Prior to the imposition of the September 1 entry cut-off date, children did not necessarily start school when the law said they could. Some with fall birthdays began school as the law allowed. Other waited until the following year to start and were already five-years old when they entered kindergarten. Differences in the way families responded to the school entry policy create a problem when constructing age cohorts. If September 1 is used as the cut-off date for defining age cohorts, students with September, October, or November birthdays who legally enrolled in school before turning five-years old would have one more year of schooling than similar students in the same age cohort who waited until they had already reached the age of five to enroll. On the other hand, if the cut-off date for determining age cohorts is adjusted to match the state law, students with September, October, or November birthdays who waited a year to enroll in school would have one fewer year of schooling than other students in their age cohort. A uniform September 1 date for constructing age cohorts would inflate the reported achievement levels of early cohorts, while the "state law" method would deflate those same achievement levels.

In this report, we decided to alter the age calculation to adjust for the heterogeneity in behavior among children who were affected by the entry date change. Age calculations are reconfigured to define cohorts by years of schooling. Students with a September, October, or November birthday when the entry cut-off date was December 1 are assigned to the age cohort of students with which they began school. This more accurately reflects that nine-year-olds are children in their fourth year of schooling, ten-year-olds are children in their fifth year of schooling, etc. As a result, mean test scores for the early 1990s are slightly higher than those reported in previous updates.

the grade level most commonly associated with that age group.[6]

This test score analysis begins with spring 1990 results, the first year CPS switched from the Form 7 version of the ITBS that was used throughout the 1980s.[7] Taken as a whole, trends show improvement across the decade. In both reading and math, scores are considerably higher for all age groups than they were at the beginning of the 1990s. There are indications that trends have flattened in the past few years, however. Reading and math scores for 2001 for students aged nine through eleven are less than 0.1 (one month in the GE metric) higher than in 1998. Math scores for ages twelve and thirteen follow the same pattern. Only the trends for fourteen-year-olds have continued to show robust improvement through 2001. Looking specifically at 2001 math scores, all six age cohorts saw a slight decline in math scores to the magnitude of less than one month. Even so, 2001 scores are still appreciably higher than most of the scores in the years preceding 2000.

Figure 3 breaks out ITBS results by student race/ethnicity. The achievement gap between children of different races has received much national attention and many strategies have been implemented to address the issue and narrow the gap.[8] In CPS, disaggregated scores by race show the following:

- Asian and white students have average ITBS scores that are well above the average scores of African-American and Latino students. For all ages in both reading and math, the average scores of both Asian and white students reached the national norm by 1995, and the second half of the 1990s saw those scores rise well above the national norm.

- The average reading scores for Asian and white students are very similar, but the average math score for Asian students is much higher than the average for white students.

- Test score trends for Latino students in both reading and math for all ages show significant improvement, especially since the mid-1990s.

- Test score trends for African-American students improved for most of the 1990s, but trends in reading have been flat since 1998 for all ages except fourteen-year-olds. Since 1998, trends in math scores for African Americans are flat for nine- and ten-year-olds, modestly up for eleven- and twelve-year-olds, and up for thirteen- and fourteen-year-olds.

- The test score gap between African-American students and students of other ethnic groups in CPS has widened over the last 10 years. Although the average scores for African Americans has improved, the average scores for Asian, white, and Latino students have improved at a faster rate.

- Nine-year-old Latino students exceeded the national norm in math for the first time in 2000 and continued to exceed it in 2001 despite a decline in

Decline in 2001 Math Scores

The decline in 2001 math scores is also reflected in the standard reporting scheme used by CPS, as the percent of students testing at or above national norms in math fell from 46.4 percent in 2000 to 43.6 percent in 2001. We re-analyzed these scores using a different metric, an equated Rasch score called a logit. The Rasch score accounts for both test form and level differences. The results of the Rasch analysis were the same as the GE trends in 2001 with one exception—the scores for fourteen-year-olds did not drop in Rasch. This suggests that the drop in the GE trends reflects an actual drop in learning and is not the product of the test form progression.

the average score. A nine-year-old who started kindergarten as a five-year-old would be in her third year of post-kindergarten education, so this average score is for all Latino students who were never in the bilingual education program, or who completed the bilingual education program in less than three years.

- The average test scores of Latino students have improved to the point where there is now a test score gap between Latino and African-American students. At the start of the 1990s, the reading scores for these two populations were quite similar and the average math score for Latino students was between one to two months higher than that for African-American students. By 2001, the average reading score for Latino students was approximately two to three months higher, and the average math score three to four months higher, than the average score for African-American students.

Trends in Learning Gains Over Time

Another way to measure student performance is to examine trends in the yearly gain in students' test scores. As argued in the Consortium's 1998 study of test score trends, gain scores best reflect education improvement because they measure the amount of learning that takes place over a year of instruction.[9] A student's gain is her score from time point B minus her score from time point A. For example, the 2001 gain for any student is her 2001 score less her 2000 score. Individual gain scores are then aggregated across grade cohorts to determine the average gain for each grade.[10] This average gain score can be used as a measure of productivity. If the gains increase, productivity is increasing (that is, students are learning more). Gains that are not increasing indicate stagnant or declining productivity. Figure 4 shows gain trends in reading and math from 1994 to 2001. Math gains for 2001 are significantly lower than gains from the previous

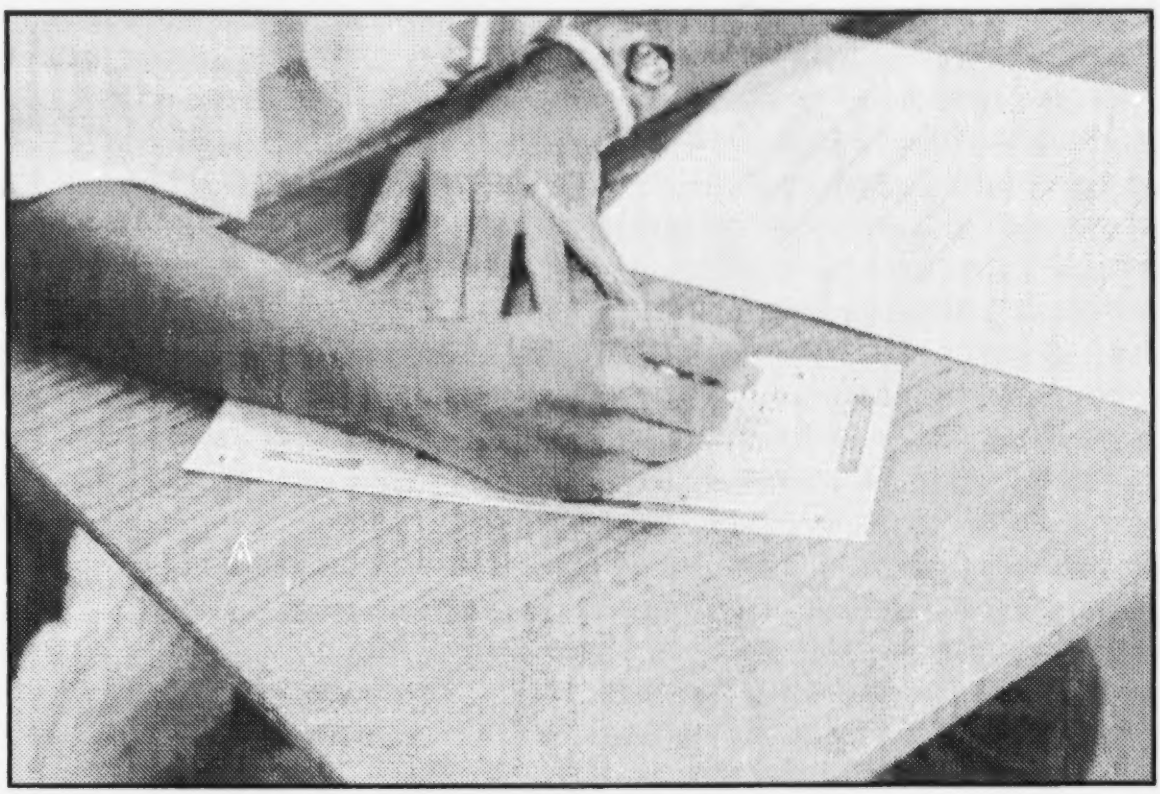
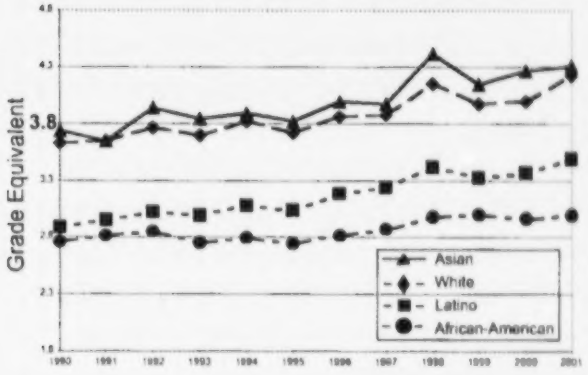


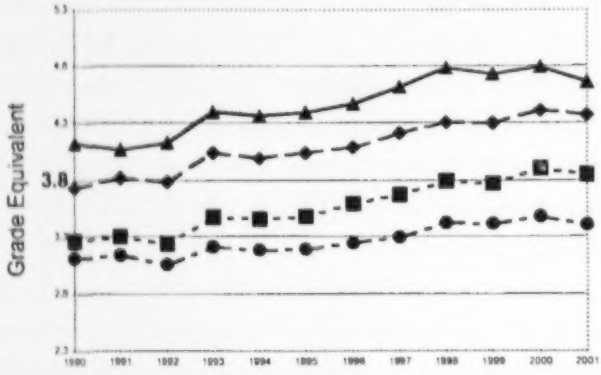
Figure 3

Average ITBS Results by Race/Ethnicity

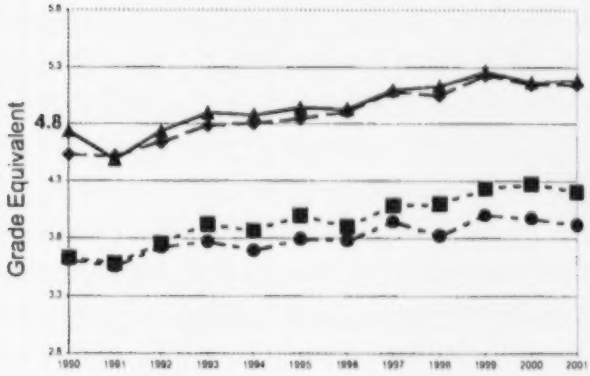
Nine Year Olds—Reading



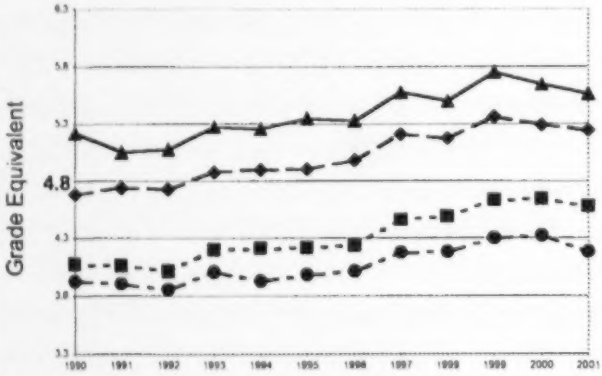
Nine Year Olds—Math



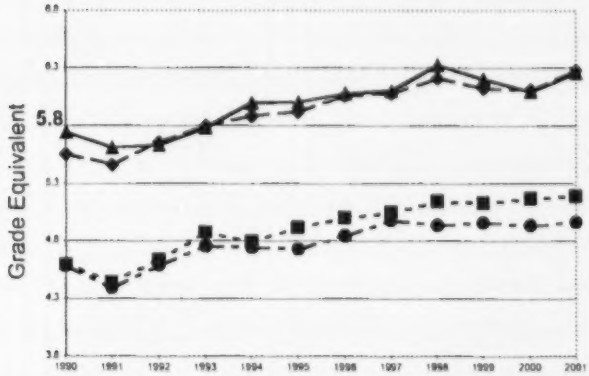
Ten Year Olds—Reading



Ten Year Olds—Math



Eleven Year Olds—Reading



Eleven Year Olds—Math

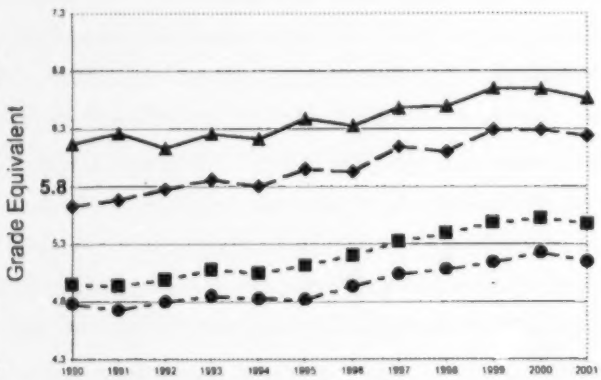
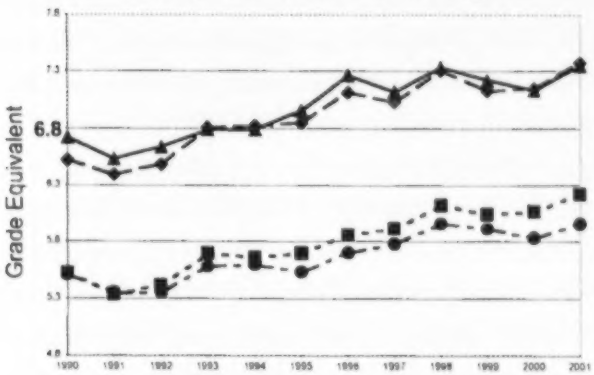


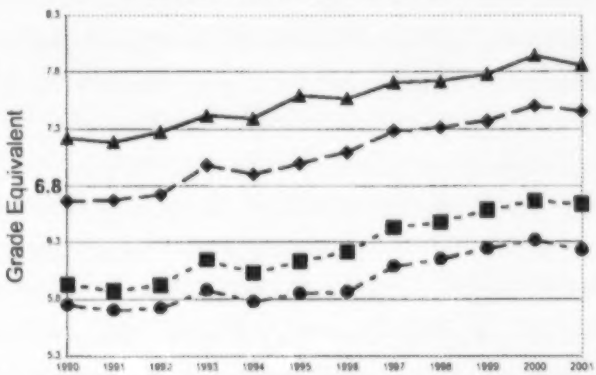
Figure 3 (continued)

Average ITBS Results by Race/Ethnicity

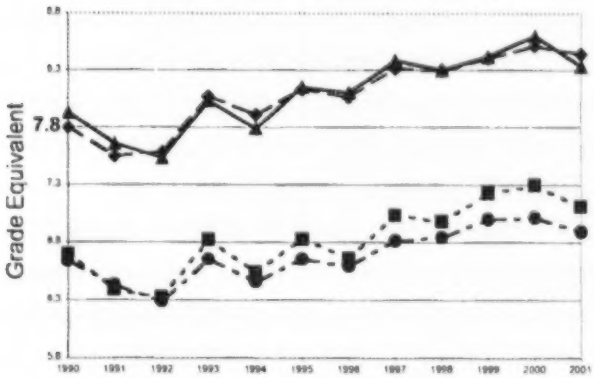
Twelve Year Olds—Reading



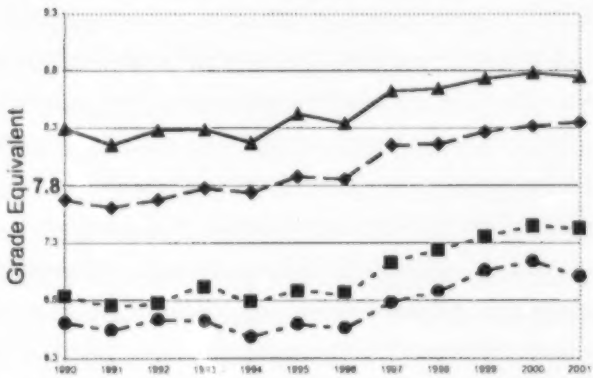
Twelve Year Olds—Math



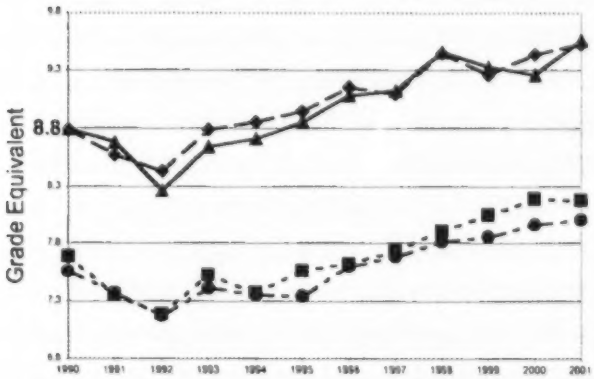
Thirteen Year Olds—Reading



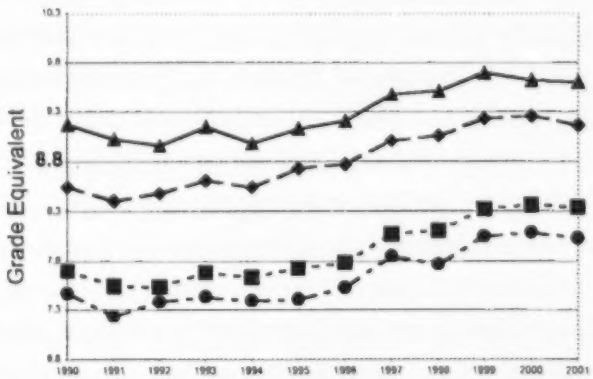
Thirteen Year Olds—Math



Fourteen Year Olds—Reading



Fourteen Year Olds—Math



Note: The bold-faced Grade Equivalent (GE) on the left axis indicates the national average GE for that grade level. See tables C and D on pages 18 and 19 for more detail.

years for most grades. Reading gains for 2001 present a mixed picture—gains in grades three and six are among the highest for those grades, but gains in the other grades are lower than in previous years.

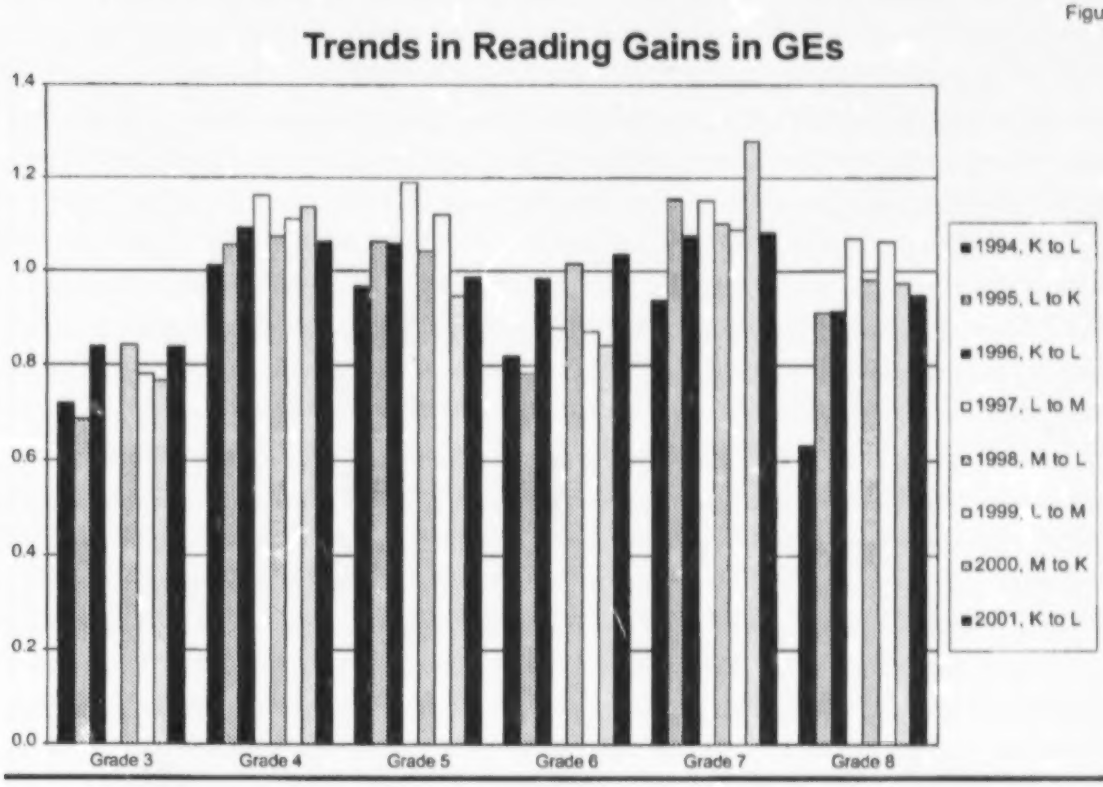
Any analysis of test score trends is complicated by the fact that test forms change yearly. One cannot be certain whether differences in student performance are due to actual changes in the learning that occurred, or to the difficulty of a specific test form or test level. For example, eighth-grade math gains suggest that test forms heavily influence student gains in this grade: the two largest gains (1997 and 1999) both happen to have the same form progression (Form L to Form M); and the three lowest gains (1994, 1996, and 2001) all share the same form progression as well (Form K to Form L). This pattern is consistent with test form effects.

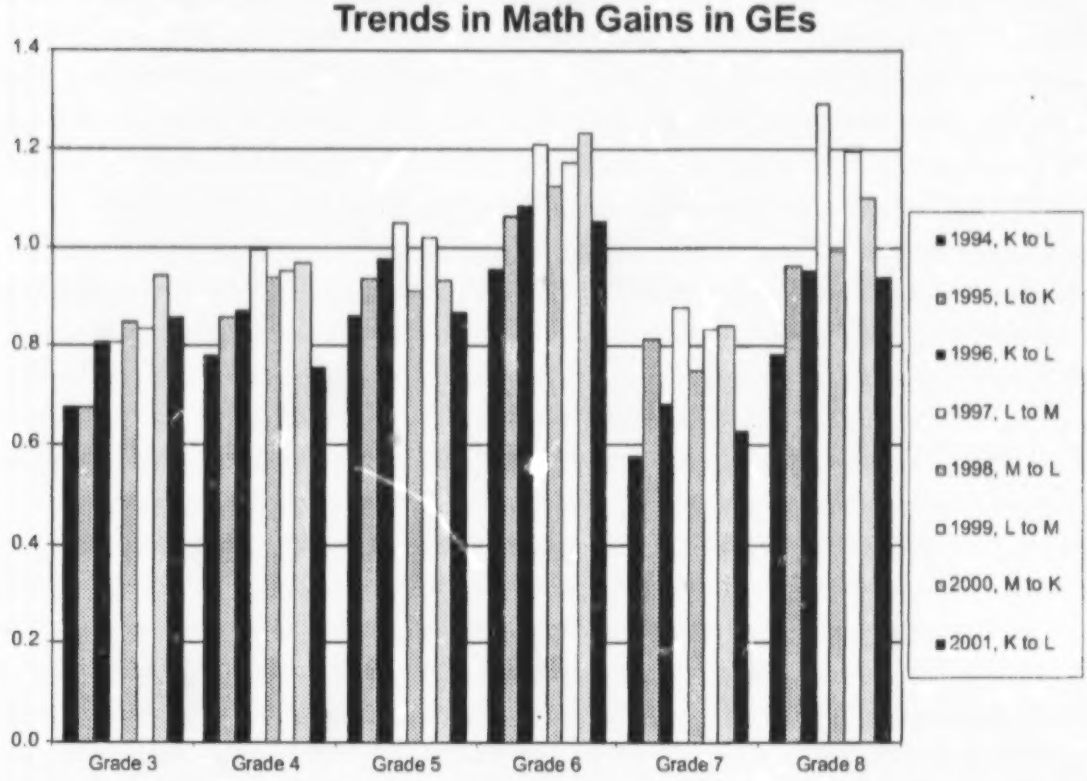
One way to control for these effects is to compare only the same form-to-form transitions. In doing so, we naturally account for any form differences in the test and can be more certain that estimated differences generally reflect differences in learning. Gains for 1997 and 1999 share the progression of Form L (in 1996 and 1998) to Form M (in 1997 and 1999); and gains for 1994, 1996, and 2001 share the progression of Form K to Form L. The L to M transitions are the white bars in Figure 4 and the K to L transitions are the black bars. As noted in our previous test trend reviews, gains for 1999 are almost universally lower than those for 1997 in both reading and math. Results for 2001 are mixed. Math gains for 2001 are lower than 1996 gains for all grades except third. Reading gains for 2001 in grades three and seven are similar to gains for 1996, but they are higher in the sixth and eighth grades and lower in fourth and fifth grades.

Concluding Observations

The ITBS trend results reported here are generally consistent with patterns noted in the Consortium's 1999 and 2000 test trend reviews. Beginning with the 1999 report, we raised a concern about possible stagnation in productivity improvements in CPS elementary schools. Data for 2001 allow us to more firmly conclude that this is in fact the case. While the gain scores indicate that CPS made improvements in student learning throughout much of the 1990s, the improvements stalled after 1997. There is no evidence of any significant productivity growth in elementary schools since that time.

Figure 4


Trends in Reading Gains in GEs
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Grade 3
Grade 4
Grade 5
Grade 6
Grade 7
Grade 8
1994, K to L
1995, L to K
1996, K to L
1997, L to M
1998, M to L
1999, L to M
2000, M to K
2001, K to L


Trends in Math Gains in GEs
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Grade 3
Grade 4
Grade 5
Grade 6
Grade 7
Grade 8
1994, K to L
1995, L to K
1996, K to L
1997, L to M
1998, M to L
1999, L to M
2000, M to K
2001, K to L

Tables

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Table A

CPS Spring Enrollment by Test Inclusion Category

Grades three to eight and non-graded special education

	Total Enrollment	Percent Tested and Included	Tested and Included	Percent Tested but Excluded	Tested but Excluded	Not Tested	Percent Not Tested
2001	206,740	152,990	74.0%	40,528	19.6%	13,222	6.4%
2000	203,150	151,190	74.4%	38,890	19.1%	13,070	6.4%
1999	200,406	148,649	74.2%	38,935	19.4%	12,822	6.4%
1998	196,624	151,551	77.1%	26,838	13.6%	18,235	9.3%
1997	192,405	147,775	76.8%	24,304	12.6%	20,326	10.6%
1996	190,067	150,157	79.0%	18,698	9.8%	21,212	11.2%
1995	190,810	151,527	79.4%	17,549	9.2%	21,734	11.4%
1994	192,747	153,833	79.8%	16,718	8.7%	22,196	11.5%
1993	194,874	159,460	81.8%	15,933	8.2%	19,481	10.0%
1992	192,223	158,880	82.7%	15,624	8.1%	17,719	9.2%

Grade 3	Total Enrollment	Tested and Included	Percent Tested and Included	Tested but Excluded	Percent Tested but Excluded	Not Tested	Percent Not Tested
2001	39,951	26,583	66.5%	10,610	26.6%	2,758	6.9%
2000	40,779	27,788	68.1%	10,247	25.1%	2,744	6.7%
1999	41,083	27,994	68.1%	10,435	25.4%	2,654	6.5%
1998	39,467	27,739	70.3%	5,318	13.5%	6,410	16.2%
1997	34,823	24,113	69.2%	3,965	11.4%	6,745	19.4%
1996	33,075	24,419	73.8%	2,135	6.5%	6,521	19.7%
1995	32,673	24,533	75.1%	1,906	5.8%	6,234	19.1%
1994	32,982	25,179	76.3%	1,838	5.6%	5,965	18.1%
1993	33,067	26,342	79.7%	1,696	5.1%	5,029	15.2%
1992	30,808	24,729	80.3%	1,539	5.0%	4,540	14.7%

Grade 4	Total Enrollment	Tested and Included	Percent Tested and Included	Tested but Excluded	Percent Tested but Excluded	Not Tested	Percent Not Tested
2001	36,990	26,455	71.5%	8,220	22.2%	2,315	6.3%
2000	36,220	25,390	70.1%	8,475	23.4%	2,355	6.5%
1999	34,669	23,785	68.6%	8,832	25.5%	2,052	5.9%
1998	29,671	23,999	80.9%	3,461	11.7%	2,211	7.5%
1997	32,367	26,168	80.8%	3,496	10.8%	2,703	8.4%
1996	31,969	26,481	82.8%	2,673	8.4%	2,815	8.8%
1995	32,591	26,987	82.8%	2,476	7.6%	3,128	9.6%
1994	32,171	26,677	82.9%	2,326	7.2%	3,168	9.8%
1993	30,633	25,925	84.6%	2,090	6.8%	2,618	8.5%
1992	31,464	27,021	85.9%	2,014	6.4%	2,429	7.7%

Grade 5	Total Enrollment	Tested and Included	Percent Tested and Included	Tested but Excluded	Percent Tested but Excluded	Not Tested	Percent Not Tested
2001	35,613	28,006	78.6%	5,463	15.3%	2,144	6.0%
2000	33,856	27,072	80.0%	4,928	14.6%	1,856	5.5%
1999	30,116	23,736	78.8%	4,545	15.1%	1,835	6.1%
1998	31,723	25,657	80.9%	4,055	12.8%	2,011	6.3%
1997	31,361	25,286	80.6%	3,786	12.1%	2,289	7.3%
1996	31,940	26,366	82.5%	3,019	9.5%	2,555	8.0%
1995	31,539	26,112	82.8%	2,751	8.7%	2,676	8.5%
1994	30,023	24,732	82.4%	2,551	8.5%	2,740	9.1%
1993	31,175	26,632	85.4%	2,338	7.5%	2,205	7.1%
1992	31,690	27,226	85.9%	2,320	7.3%	2,144	6.8%

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Grade 6	Total Enrollment	Tested and Included	Percent Tested and Included	Tested but Excluded	Percent Tested but Excluded	Not Tested	Percent Not Tested
2001	34,957	27,444	78.5%	5,521	15.8%	1,992	5.7%
2000	31,335	24,625	78.6%	4,739	15.1%	1,971	6.3%
1999	33,344	26,228	78.7%	5,190	15.6%	1,926	5.8%
1998	33,462	27,004	80.7%	4,505	13.5%	1,953	5.8%
1997	31,513	25,305	80.3%	4,031	12.8%	2,177	6.9%
1996	30,928	25,359	82.0%	3,138	10.1%	2,431	7.9%
1995	29,699	24,254	81.7%	2,914	9.8%	2,531	8.5%
1994	30,732	25,363	82.5%	2,806	9.1%	2,563	8.3%
1993	31,372	26,704	85.1%	2,519	8.0%	2,149	6.9%
1992	32,879	28,425	86.5%	2,440	7.4%	2,014	6.1%

Grade 7	Total Enrollment	Tested and Included	Percent Tested and Included	Tested but Excluded	Percent Tested but Excluded	Not Tested	Percent Not Tested
2001	28,670	21,701	75.7%	4,936	17.2%	2,033	7.1%
2000	30,258	23,343	77.1%	5,040	16.7%	1,875	6.2%
1999	30,702	23,715	77.2%	5,009	16.3%	1,978	6.4%
1998	28,494	22,551	79.1%	4,074	14.3%	1,869	6.6%
1997	30,210	24,098	79.8%	3,876	12.8%	2,236	7.4%
1996	29,040	23,526	81.0%	3,087	10.6%	2,427	8.4%
1995	29,874	24,488	82.0%	2,933	9.8%	2,453	8.2%
1994	30,515	25,053	82.1%	2,770	9.1%	2,692	8.8%
1993	32,212	27,514	85.4%	2,430	7.5%	2,268	7.0%
1992	30,841	26,612	86.3%	2,246	7.3%	1,983	6.4%

Grade 8	Total Enrollment	Tested and Included	Percent Tested and Included	Tested but Excluded	Percent Tested but Excluded	Not Tested	Percent Not Tested
2001	30,558	22,801	74.6%	5,778	18.9%	1,979	6.5%
2000	30,624	22,969	75.0%	5,439	17.8%	2,216	7.2%
1999	30,340	23,189	76.4%	4,891	16.1%	2,260	7.4%
1998	31,267	24,585	78.6%	4,335	13.9%	2,347	7.5%
1997	29,395	22,782	77.5%	3,851	13.1%	2,762	9.4%
1996	30,270	23,979	79.2%	3,238	10.7%	3,053	10.1%
1995	31,485	25,101	79.7%	3,086	9.8%	3,298	10.5%
1994	33,042	26,773	81.0%	2,760	8.4%	3,509	10.6%
1993	31,371	26,226	83.6%	2,248	7.2%	2,897	9.2%
1992	29,159	24,748	84.9%	2,178	7.5%	2,233	7.7%

(Non-graded students with disabilities in the same age range as students in grades three through eight)

Grade 20	Total Enrollment	Tested and Included	Percent Tested and Included	Tested but Excluded	Percent Tested but Excluded	Not Tested	Percent Not Tested
2001	1		0.0%		0.0%	1	100.0%
2000	78	3	3.8%	22	28.2%	53	67.9%
1999	152	2	1.3%	33	21.7%	117	77.0%
1998	2,540	16	0.6%	1,090	42.9%	1,434	56.5%
1997	2,736	23	0.8%	1,299	47.5%	1,414	51.7%
1996	2,845	27	0.9%	1,408	49.5%	1,410	49.6%
1995	2,949	52	1.8%	1,483	50.3%	1,414	47.9%
1994	3,282	56	1.7%	1,667	50.8%	1,559	47.5%
1993	5,044	117	2.3%	2,612	51.8%	2,315	45.9%
1992	5,382	119	2.2%	2,887	53.6%	2,376	44.1%

Table B

Reasons for Exclusion from Reporting

Grades three to eight and non-graded special education

	Total, Tested but Excluded	Special Education	Bilingual Education	Both SpecEd and BilingEd
2001	40,528	22,906	14,497	3,125
2000	38,890	22,073	14,018	2,799
1999	38,935	20,503	15,358	3,074
1998	26,838	19,768	4,451	2,619
1997	24,304	18,472	3,583	2,249

Grade 3	Total, Tested but Excluded	Special Education	Bilingual Education	Both SpecEd and BilingEd
2001	10,610	2,676	7,283	651
2000	10,247	2,761	6,994	492
1999	10,435	2,849	7,114	472
1998	5,318	2,529	2,485	304
1997	3,965	2,118	1,598	249

Grade 4	Total, Tested but Excluded	Special Education	Bilingual Education	Both SpecEd and BilingEd
2001	8,220	3,411	4,146	663
2000	8,475	3,569	4,350	556
1999	8,832	3,175	5,118	539
1998	3,461	2,485	559	417
1997	3,496	2,621	499	376

Grade 5	Total, Tested but Excluded	Special Education	Bilingual Education	Both SpecEd and BilingEd
2001	5,463	3,995	901	567
2000	4,928	3,582	836	510
1999	4,545	3,051	969	525
1998	4,055	3,162	416	477
1997	3,786	2,942	423	421

Grade 6	Total, Tested but Excluded	Special Education	Bilingual Education	Both SpecEd and BilingEd
2001	5,521	4,301	747	473
2000	4,739	3,674	619	446
1999	5,190	3,820	807	563
1998	4,505	3,619	371	515
1997	4,031	3,260	378	393

Grade 7	Total, Tested but Excluded	Special Education	Bilingual Education	Both SpecEd and BilingEd
2001	4,936	3,753	805	378
2000	5,040	4,094	574	372
1999	5,009	3,814	667	528
1998	4,074	3,323	339	412
1997	3,876	3,145	332	399

Grade 8	Total, Tested but Excluded	Special Education	Bilingual Education	Both SpecEd and BilingEd
2001	5,778	4,770	615	393
2000	5,439	4,371	645	423
1999	4,891	3,761	683	447
1998	4,335	3,603	281	451
1997	3,851	3,172	353	326

(Non-graded students with disabilities in the same age range as students in grades three through eight)

Grade 20	Total, Tested but Excluded	Special Education	Bilingual Education	Both SpecEd and BilingEd
2001				
2000	22	22	0	0
1999	33	33	0	0
1998	1,090	1,047	0	43
1997	1,299	1,214	0	85

Table C

Mean ITBS Reading Scores by Grade Equivalent

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
9 Year Olds												
White	3.63	3.65	3.76	3.70	3.82	3.72	3.86	3.87	4.15	3.97	4.00	4.22
African-American	2.76	2.82	2.85	2.75	2.80	2.75	2.82	2.88	2.98	3.00	2.97	3.00
Asian	3.73	3.65	3.94	3.84	3.89	3.82	3.99	3.98	4.42	4.14	4.27	4.31
Latino	2.89	2.95	3.02	2.99	3.08	3.03	3.19	3.24	3.41	3.32	3.37	3.48
All	2.92	2.97	3.03	2.95	3.01	2.96	3.04	3.08	3.21	3.18	3.17	3.23
10 Year Olds												
White	4.53	4.52	4.64	4.79	4.80	4.85	4.91	5.08	5.05	5.23	5.15	5.15
African-American	3.61	3.55	3.72	3.78	3.69	3.79	3.78	3.94	3.82	4.00	3.97	3.92
Asian	4.74	4.49	4.73	4.90	4.88	4.94	4.93	5.10	5.14	5.26	5.17	5.18
Latino	3.63	3.58	3.76	3.92	3.86	4.00	3.90	4.08	4.10	4.23	4.28	4.20
All	3.75	3.70	3.86	3.97	3.91	4.00	3.97	4.14	4.07	4.22	4.21	4.15
11 Year Olds												
White	5.55	5.46	5.66	5.80	5.88	5.92	6.06	6.08	6.20	6.12	6.11	6.28
African-American	4.59	4.39	4.59	4.76	4.74	4.73	4.85	4.98	4.93	4.96	4.94	4.97
Asian	5.74	5.61	5.63	5.78	5.99	6.00	6.08	6.10	6.32	6.20	6.09	6.26
Latino	4.60	4.44	4.64	4.87	4.80	4.91	5.00	5.05	5.14	5.13	5.17	5.19
All	4.73	4.56	4.76	4.94	4.93	4.95	5.06	5.15	5.17	5.17	5.16	5.20
12 Year Olds												
White	6.52	6.40	6.48	6.80	6.82	6.85	7.12	7.03	7.31	7.13	7.15	7.37
African-American	5.50	5.35	5.35	5.58	5.60	5.53	5.70	5.78	5.95	5.91	5.83	5.96
Asian	6.72	6.53	6.63	6.79	6.79	6.95	7.27	7.13	7.33	7.22	7.14	7.34
Latino	5.53	5.34	5.41	5.70	5.66	5.70	5.86	5.92	6.12	6.04	6.06	6.22
All	5.66	5.50	5.53	5.79	5.79	5.77	5.95	6.00	6.20	6.12	6.08	6.22
13 Year Olds												
White	7.80	7.55	7.59	8.06	7.91	8.13	8.07	8.32	8.30	8.41	8.51	8.44
African-American	6.64	6.44	6.29	6.66	6.46	6.66	6.60	6.82	6.84	7.00	7.01	6.90
Asian	7.92	7.65	7.53	8.03	7.79	8.15	8.10	8.38	8.30	8.42	8.60	8.33
Latino	6.71	6.39	6.33	6.82	6.54	6.83	6.66	7.03	6.98	7.23	7.30	7.12
All	6.84	6.59	6.49	6.91	6.70	6.92	6.83	7.10	7.09	7.27	7.31	7.17
14 Year Olds												
White	8.79	8.57	8.43	8.79	8.85	8.94	9.16	9.10	9.45	9.26	9.44	9.53
African-American	7.56	7.37	7.17	7.42	7.36	7.35	7.60	7.69	7.82	7.86	7.96	8.01
Asian	8.80	8.68	8.26	8.64	8.72	8.85	9.09	9.13	9.46	9.33	9.26	9.56
Latino	7.69	7.35	7.19	7.53	7.37	7.56	7.63	7.74	7.91	8.05	8.18	8.17
All	7.78	7.55	7.36	7.64	7.58	7.64	7.83	7.91	8.08	8.12	8.24	8.27

Note: Scores in 1995, 1996, 1999, 2000, and 2001 are adjusted to simulate the bilingual education inclusion rules of 1997 and 1998. In 1999, 2000, and 2001, students in their fourth year of bilingual education have been added back into the totals. In 1995 and 1996, students with fewer than three years of bilingual education have been removed.

Table D

Mean ITBS Math Scores by Grade Equivalent

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
9 Year Olds												
White	3.73	3.82	3.78	4.03	3.99	4.04	4.08	4.21	4.30	4.30	4.41	4.37
African-American	3.11	3.14	3.06	3.21	3.18	3.19	3.25	3.30	3.42	3.42	3.48	3.41
Asian	4.12	4.07	4.13	4.40	4.36	4.39	4.47	4.62	4.78	4.73	4.79	4.66
Latino	3.26	3.30	3.24	3.47	3.46	3.48	3.59	3.67	3.79	3.77	3.90	3.84
All	3.25	3.28	3.22	3.41	3.37	3.39	3.45	3.50	3.61	3.59	3.68	3.60
10 Year Olds												
White	4.68	4.74	4.72	4.87	4.89	4.90	4.98	5.20	5.17	5.36	5.29	5.24
African-American	3.93	3.91	3.86	4.01	3.93	3.98	4.01	4.17	4.19	4.30	4.32	4.18
Asian	5.22	5.05	5.07	5.27	5.26	5.35	5.32	5.58	5.49	5.75	5.64	5.56
Latino	4.07	4.06	4.01	4.20	4.21	4.22	4.24	4.46	4.49	4.63	4.64	4.57
All	4.09	4.08	4.03	4.20	4.16	4.19	4.22	4.41	4.41	4.55	4.55	4.44
11 Year Olds												
White	5.63	5.68	5.78	5.86	5.80	5.95	5.93	6.14	6.10	6.29	6.29	6.24
African-American	4.79	4.73	4.80	4.85	4.83	4.82	4.93	5.04	5.08	5.15	5.23	5.15
Asian	6.17	6.26	6.13	6.25	6.21	6.39	6.33	6.48	6.49	6.65	6.65	6.56
Latino	4.95	4.94	4.99	5.08	5.05	5.12	5.20	5.33	5.39	5.49	5.53	5.48
All	4.96	4.94	5.00	5.07	5.05	5.08	5.16	5.29	5.33	5.42	5.47	5.40
12 Year Olds												
White	6.66	6.67	6.72	6.98	6.90	6.99	7.10	7.28	7.31	7.37	7.50	7.46
African-American	5.75	5.70	5.73	5.88	5.78	5.85	5.86	6.09	6.16	6.25	6.32	6.23
Asian	7.22	7.19	7.27	7.42	7.39	7.59	7.56	7.71	7.72	7.78	7.94	7.86
Latino	5.93	5.87	5.92	6.14	6.03	6.14	6.22	6.43	6.48	6.58	6.66	6.64
All	5.95	5.90	5.93	6.13	6.03	6.11	6.16	6.37	6.43	6.52	6.60	6.53
13 Year Olds												
White	7.67	7.61	7.68	7.78	7.74	7.87	7.85	8.15	8.16	8.26	8.31	8.35
African-American	6.61	6.54	6.64	6.62	6.49	6.60	6.57	6.79	6.89	7.06	7.14	7.02
Asian	8.29	8.15	8.28	8.28	8.17	8.43	8.34	8.62	8.64	8.74	8.79	8.75
Latino	6.84	6.76	6.78	6.92	6.80	6.88	6.87	7.12	7.24	7.35	7.44	7.42
All	6.84	6.77	6.84	6.89	6.78	6.88	6.86	7.10	7.19	7.34	7.41	7.33
14 Year Olds												
White	8.54	8.41	8.48	8.61	8.54	8.73	8.78	9.02	9.06	9.24	9.27	9.17
African-American	7.47	7.24	7.38	7.43	7.39	7.41	7.52	7.85	7.77	8.04	8.09	8.02
Asian	9.18	9.03	8.96	9.16	8.99	9.14	9.21	9.49	9.52	9.70	9.62	9.61
Latino	7.70	7.54	7.54	7.69	7.64	7.72	7.78	8.07	8.10	8.32	8.36	8.34
All	7.71	7.51	7.60	7.69	7.64	7.71	7.79	8.10	8.07	8.32	8.36	8.30

Note: Scores in 1995, 1996, 1999, 2000, and 2001 are adjusted to simulate the bilingual education inclusion rules of 1997 and 1998. In 1999, 2000, and 2001, students in their fourth year of bilingual education have been added back into the totals. In 1995 and 1996, students with fewer than three years of bilingual education have been removed.

Table E

Reading Gain Scores

	1994	1995	1996	1997	1998	1999	2000	2001
Grade 3	0.72	0.69	0.84	0.80	0.84	0.78	0.77	0.84
Grade 4	1.02	1.06	1.09	1.16	1.07	1.11	1.14	1.06
Grade 5	0.97	1.06	1.06	1.19	1.04	1.12	0.95	0.99
Grade 6	0.82	0.78	0.98	0.88	1.02	0.87	0.84	1.04
Grade 7	0.94	1.16	1.08	1.15	1.10	1.09	1.28	1.08
Grade 8	0.63	0.91	0.92	1.07	0.98	1.06	0.97	0.95

Math Gain Scores

	1994	1995	1996	1997	1998	1999	2000	2001
Grade 3	0.68	0.68	0.81	0.81	0.85	0.83	0.94	0.86
Grade 4	0.78	0.86	0.87	1.00	0.94	0.95	0.97	0.76
Grade 5	0.86	0.93	0.97	1.05	0.91	1.02	0.93	0.87
Grade 6	0.96	1.07	1.08	1.21	1.13	1.17	1.23	1.05
Grade 7	0.57	0.82	0.68	0.88	0.75	0.83	0.84	0.63
Grade 8	0.78	0.96	0.95	1.29	1.00	1.19	1.10	0.94

Endnotes

[1] Test scores are approximations of student achievement, not perfect indicators. Every test score includes some random error. The more reliable the test, the smaller the error. Measurement error can never be reduced to zero, however. Test scores can be responsive to additional factors, such as student attentiveness on the day of the test, a student's background knowledge of the topics being tested, and even luck. Another potential influence is the repeated use of ITBS test forms. Teachers may become familiar with the content of specific tests and, unconsciously or otherwise, teach to specific items on the test.

[2] In the GE metric, scores are reported as a number to the tenth of a decimal (i.e. 5.3, 6.8, or 7.2). The number prior to the decimal refers to the grade and the number after the decimal refers to the month. In this way, 5.3 is the third month of the fifth grade, 6.8 is the eighth month of the sixth grade, and 7.2 is the second month of the seventh grade. The national norm is the eighth month of the grade in which the test is given because that is when the ITBS is administered (the third grade norm is 3.8, the fourth grade norm is 4.8, etc.). The phrases "at or above national norms" and "at or above grade level" can be used interchangeably. By definition, the national norm is the 50th percentile of a national sample. In other publications we describe the limitation of using grade equivalent scores. Here, however, we have chosen to analyze CPS data in the manner in which it is publicly reported.

[3] Easton et al. (1998); Easton et al. (2000); Easton, Rosenkranz, and Bryk (2001).

[4] For most students with disabilities, their Individualized Education Program (IEP) determines the cut-off score used for promotion. These scores are lower than the cut-off scores used for students who are tested and included.

[5] The non-graded special education section in Table A changed slightly from the numbers reported in previous test trend reports due to a correction in the filtering procedure used to remove students who are not enrolled full-time in a CPS school (being either enrolled and receiving special education services from CPS, or being evaluated for special education by CPS but not enrolled in a Chicago public school). The effect of the narrowing of this filter reduced the non-graded special education numbers by between 600 to 800 students each year.

[6] The norm is the 50th percentile score for each grade from a 1988 nationally normed sample.

[7] Previous test trend reviews started with spring 1992 results.

[8] Jencks and Phillips (1998).

[9] Bryk et al. (1998).

[10] Test score gains are reported by grade rather than by age to control for the form/level differences contained within the scoring of the ITBS in the grade equivalent metric.

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This is the fourth in a series of research data briefs designed to provide new data on a particular issue. As the name suggests, this is a short report focusing on a single topic. Because data briefs are not comprehensive studies, we limit our discussion of findings to summarizing the key results.

This data brief reflects the interpretations of the author. Although the Consortium's Steering Committee provided technical advice and reviewed an earlier version of this brief, no formal endorsement by these individuals, their organizations, or the full Consortium should be assumed.

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Consortium on Chicago School Research

Mission

The Consortium on Chicago School Research is an independent federation of Chicago area organizations that conducts research on ways to improve Chicago's public schools and assess the progress of school improvement and reform. Formed in 1990, it is a multipartisan organization that includes faculty from area universities, leadership from the Chicago Public Schools, the Chicago Teachers Union, the Chicago Principals and Administrators Association, education advocacy groups, the Illinois State Board of Education, and the North Central Regional Educational Laboratory, as well as other key civic and professional leaders.

The Consortium does not argue a particular policy position. Rather, it believes that good policy is most likely to result from a genuine competition of ideas informed by the best evidence that can be obtained.

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